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1847.

Birmingham & Ellenborough R.R. Map
1847

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TO THE PUBLIC.

In submitting the accompanying Map and estimates for the construction of the Rail Road from Wilmington, N. C., to, or near, Manchester, in South Carolina, to fill up the gap from North to South, together with the estimated expenses and income of said Road, it may very justly be said that the necessity for the enterprise is obviously so great that we need say but little to recommend it to public favor.

The mere fact that it is a "connecting link," and that there is but one more from Maine to Louisiana, which is gradually being filled up, to render the inland communication by Rail Road and Steamboat entire and complete, will strike every person at a glance, not only of its great importance, but with the certainty of its being a profitable investment for capital.

Probably in no direction, could a line of 158 miles, the length of this Road, be found of an easier construction. It is nearly straight and passes mostly through pine and uncleared lands, abounding in timber of the finest quality; of slight grades; with one exception, none over 30 feet to the mile, and but few so great as that, entirely free from rock excavation, and not a great deal even of stiff clay, being chiefly of black dirt and sand of easy excavation, and over water courses admitting of low and cheap bridges.

The Wilmington & Raleigh Road running through a similar country, and but 4 miles longer, favorably supports the estimates of this Road, the work of the former having been accomplished within the estimates, as will be seen by

MAP

of the

WILMINGTON AND MANCHESTER RAIL ROAD

from

WILMINGTON N.C. TO MANCHESTER S.C.

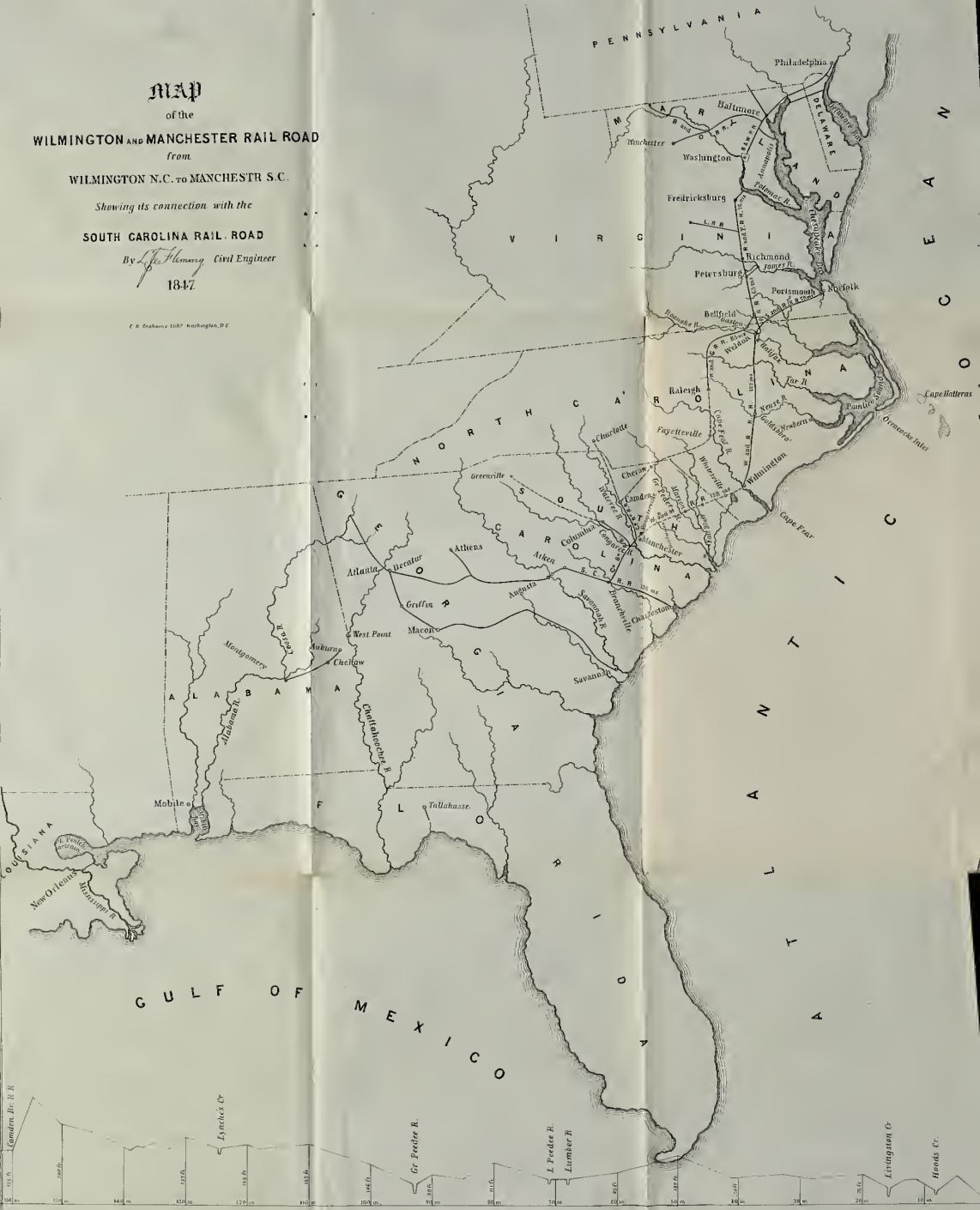
Showing its connection with the

SOUTH CAROLINA RAIL ROAD

By *L. F. H. H. H. H.* Civil Engineer

1847

C. B. Graham 1887 Washington, D.C.



PROFILE OF THE WILMINGTON AND MANCHESTER RAIL ROAD

TO THE PUBLIC.

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reference to the following tables extracted from the Report of the Engineer upon the completion of the work in 1840.

	ESTIMATED COST.	ACTUAL COST.
Excavation and Embankment,	\$385,624 46	\$316,320 62
Superstructure—rails, sills, knees and iron, - - - - -	582,085 34	573,663 44
Bridges, - - - - -	120,340 00	166,961 16
6 Locomotives, - - - - -	48,000 00	48,000 00
20 Coaches, - - - - -	20,000 00	20,000 00
80 Cars, - - - - -	24,000 00	24,000 00
Warehouses & water stations on the line,	16,000 00	22,166 17
Workshops, Sheds, Warehouses, and wharves at the termination of the road	70,000 00	56,691 51
Pay of Engineers, incl'd'g contingencies	40,000 00	66,991 45
3 Steamboats, - - - - -	180,000 00	180,000 00
Land Damages, - - - - -	13,950 20	16,262 60
	\$1,500,000 00	\$1,491,056 95

The estimated cost of the present Road, with the stock necessary to start it, shews a less aggregate amount than that of the Wilmington & Raleigh Road, although the item for superstructure is nearly doubled, caused by the increased weight of iron and greater amount of Timber. From a comparison of the estimates for this and the Wilmington & Raleigh Road, it may be said with entire confidence that the cost of the Road will not come up to the estimates, first, because it is not so long, and runs over a country presenting a more uniform surface than the Wilmington & Raleigh Road, and secondly, because labor, provisions, and materials, are much cheaper than when that Road was built; and again it is but fair to calculate that experience will befriend us in the lettings of the contract.

REPORT OF THE ENGINEERS

ON THE ROUTE TO CONNECT WITH THE SOUTH CAROLINA RAIL ROAD.

To the Subscribers to the Survey of the Route for a Rail Road to connect the WILMINGTON & ROANOKE RAIL ROAD with the CAMDEN Branch Road :

GENTLEMEN : In compliance with your wishes and instructions, a corps was organized and the survey of the Route for the contemplated Road commenced in July last.

A Report upon the Survey, together with a Map and profile of the route, we beg leave herewith to submit to you.

At the commencement, various schemes were proposed for making the necessary connection with the Wilmington and Roanoke Rail Road. One, to cross the Cape Fear, below the junction of the two rivers, with a bridge or steam-ferry boat ; thence over the swamp on Eagle's Island and Brunswick river.

A second, to start from the Depot of the road on the hill, and curving around to cross the North East at or near Hilton ; thence across the point between the two rivers and over the "Northwest." And a third, to commence at some point on the west side of the Northwest branch of the Cape Fear, and above the point at which the Brunswick breaks from it—and from this point the connection to be made by means of a small steamboat.

This last, being decidedly the cheapest, motives of present economy determined us in selecting it as the point at which a line to serve as a basis for our estimates should commence.

Starting, then, at "Meares' Bluff," three miles above town, the table land being reached at an elevation of fourteen feet above tide water, the line pursues a north-westwardly direction, for the purpose of avoiding the main body of the Green Swamp and Waccamaw Lake, to near Livingston's Creek, before reaching which, sufficient northing being obtained, a change of direction is made. Crossing the creek at a favorable place, about one and a half miles south of the main road, the route, passing a half mile north of the Waccamaw

Lake and about one mile south of Whitesville, is continued straight, a distance of forty-five miles, to within two miles of Fair Bluff on the Lumber river, a designated point in the line. From thence, the route, passing about a half mile back of Fair Bluff, and crossing the State line two miles below it, runs down on the ridge between the Lumber river and Gapway Swamp, and crosses the former below the mouth of Ashpole Swamp and near Floyd's Ferry. Thence, below the foot of the ridge between Raft Swamp and the Little Pe-dee, and across the latter about one mile above Dr. Gilchrist's bridge, the route follows the ridge between the "Big Sister" and "Maiden Down" bays, and passes about a quarter of a mile north of Marion Court House. From thence to the Great PeDee river, a favorable point for crossing, which is found near the head of Mr. Gibson's dam. Crossing the river at this place, and the river swamp, two miles in extent, the route after crossing Polk swamp, follows the ridge between Highhill and Jeffries' creek, to a point near the road leading from Darlington Court House to Ebenezer church. From thence the route is continued straight, crossing Lake and Sparrow Swamps; Lynche's creek, Black river, Scape O'er, and Rocky Bluff Swamps, to a point south of and near Sumterville, a distance of thirty-seven miles.

Thus far the country over which the line has passed, is generally so flat and uniform as to present but little variety, and with some few unimportant exceptions, it abounds in timber of the very best quality for the construction of the road.

The graduation throughout will be comparatively slight, and of easy execution ; consisting, excepting where streams and swamps are crossed, chiefly of light embankments, sufficiently high to protect the road from the water that usually remains upon the remarkably flat surface of the earth in wet weather.

From Sumterville, the route passes over a country presenting a similar appearance to that already described, until it reaches Col. John Moore's plantation. Passing about a quar-

ter of a mile to the south of his house, it crosses the head of "McRae's Mill Pond," and ascending from this, strikes in Mr. Rees' field, the ridge of Hills, commencing below Manchester and bordering upon the low grounds of the Wateree river, known as the "High hills of the Santee." Passing the ridge at its lowest point, in Mr. Rees' field, at an elevation of 300 feet above tide water, and about one hundred and seventy-five feet above the Camden branch road, the route, by a continuous curve, of from 2,000 to 3,000 feet radius, with a grade of fifty feet to the mile, and with some heavy excavations and embankments, connects with the Camden road.

Thus presenting a road 158 miles in length, of which 151 miles are straight, and the balance, except that immediately at the connection, of curves of over 6,000 feet radius; with fewer heavy grades, and with less excavation and embankment than any road of similar length in the country. It may be proper here to state that we are of the opinion that further examination would demonstrate the practicability of a better route over the "High hills of the Santee" being found, than the one here presented; time with us, being limited, prevented our going into the examination as minutely as we would otherwise have done.

Before proceeding with the estimates a description of the kind of road estimated for becomes necessary. The graduation is intended for a single track only, and consists of excavations with slopes of 3-4 horizontal to 1 perpendicular; ten feet wide at grade with side ditches, five feet wide at top, two feet deep and two feet wide at bottom. Embankments twelve feet wide at grade, and with slopes of 1 1-2 horizontal to 1 perpendicular.

The superstructure to consist of sub-sills 4 by 10 inches under the bearing of the rails, and bedded so that their upper surfaces shall be two inches below the graded surface of the road, and at their joints resting on cross pieces of similar dimensions. On these the cross ties or sills 8 by 8 and 8 feet long, are placed three feet apart from centre to centre; every other one being notched on its upper surface for the reception

of the rail; the alternate sill being brought to a level with the other by being notched on the under side and let down upon the subsill. Upon the sills, the rails, 6 by 7, four feet 8 1-2 inches apart, and chamfered on their inner edges, one and a half-inches, are placed; being confined to the notched sill by means of a wooded key, and kept in its place on the other by a wooden bracket on the outside of the rail. Over streams and swamps, Lattice bridges and Trestle work has been estimated for. The former on "Town's" plan, roofed and weatherboarded to protect them from the weather, and of these, there are four, viz: three of one span each, across Livingston's creek, Lumber, and Little Pee Dee rivers, and one of two spans, with a draw over the Great Pee Dee.

The trestle-work, where, as in the Great Pee Dee swamps, it is not over twelve feet in height, is on the plan adopted on the South Carolina roads; the piles being capped and cross-braced, with string-pieces 10 by 14 inches notched on the caps and secured by means of wooden keys, and on these string-pieces the road laid. In the Great Pee Dee swamp, Trestles of the form used on the Wilmington Road have been estimated for, in consequence of the height at which the swamp has to be crossed, to protect the road from the action of freshets.

For a road built in this manner, with a plate rail 2 1-2 by 1 inch, double the weight of that ordinarily used, and consequently costing about \$1,400 per mile more; (and that it will answer well all the purposes for which it is intended we think no one can doubt) we present the following estimates, viz:

For Excavations and Embankments, including	
grubbing and clearing,	272,581 40
For Superstructure, including Turnouts,	854,622 90
For Bridging,	105,935 00
	<hr/>
	1,233,139 30

Brought over,	1,233,139	30
For Warehouses and Water stations on line and at each end,	40,000	00
For pay of Engineers, including contingencies; (this item depending upon the time occupied in the construction of the road,)	40,460	70
For land damages	15,000	00
	<hr/>	
	1,328,600	00
For 10 Locomotive Engines,	70,000	00
For 8 Passenger Cars,	14,000	00
4 Baggage and Mail Cars,	4,800	00
30 Eight wheel box Cars,	18,000	00
30 " " flat Cars,	15,600	00
Add for Steamboat,	15,000	00
	<hr/>	
	\$1,466,000	00

It will be seen that the route on which the estimates are made, is the one adopted by the Convention held at Marion Court House, in August last. At that Convention a different route was advocated, viz: one to run from Marion Court House to Sumterville direct; and its friends were desirous that a Survey of it should be made. Our limited time placed this out of our power; a reconnoissance, however, was made and we intended, in compliance with a promise to that effect, to present an approximate estimate of the cost of construction on it; but learning that the charter presented to the Legislatures of the two States designates, in conformity with the resolutions passed at the Marion Convention, the precise route over which the road is to be built, we deem it unnecessary at present to do so.

JOHN C. McRAE,
L. J. FLEMING,
Civil Engineers.

Wilmington, N. C., Dec. 12, 1846.

Since the foregoing report was made we have been placed in possession of information that enables us to make a more complete table of receipts and expenditures than that which accompanied it, this we herewith present.

ESTIMATED BUSINESS OF THE ROAD.

PASSENGERS.

80 Passengers per day between Manchester and
Wilmington, including way travel, at \$5
each, would give \$400 per day, and for the
year, \$146,000 00

FREIGHT.

20,000 bales Cotton at 75 cts. each,	\$15,000 00
Turpentine and Spirits ditto,	23,000 00
Bacon, Corn and Sundries,	12,000 00
Transportation of Goods,	22,000 00
	<hr/> 72,000 00
Transportation of Mail at present pay,	38,000 00
	<hr/>
Total Receipts,	\$256,000 00

ESTIMATED EXPENSES—IN DETAIL.

PERMANENT EXPENSES.

1 President,	\$2,500 00
1 Superintendent of Repairs,	1,500 00
1 Secretary and Treasurer,	1,500 00
2 Clerks at \$600 each,	1,200 00
2 Agents Transportation, 1 at each end,	1,600 00
2 1 each, Master Carpenter and Machinist,	1,600 00
10 Depot Agents, at \$250 each	2,500 00
10 Overseers of Road repairs at \$360	3,600 00
80 Hands for repairs and water sta- tions at \$125,	10,000 00
109	<hr/> 26,000 00

Brought over,

26,000 00

EXPENSES OF SHOPS.

8 Machinists at \$2 per day,	16 00
5 Blacksmiths, 2 "	10 00
5 Helpers, 50c. "	2 50
6 Carpenters, 1 50 "	9 00
6 Yard Hands, 33 1-3 "	2.00

30 Hands for 313 days work yearly at 39 50 12,363 50

\$38,363 50

TRAIN EXPENSES.

1 Engineer, at \$2 per day	2 00
1 Fireman, 67c. "	67
1 Train Agent, 1,50 "	1 50
1 Train Hand, 60c. "	60
2 cords Wood per trip of half length of Road, at \$1 per cord,	2 00
Oil for do.	50

Expenses per day for 1 train half length of

Road, \$7 27

And for the year for 8 trains, viz: daily

Mail and daily freight trains at \$7,27 pr day, 21,228 40

12 Extra hands for freight trains at \$1,25, 1,500 00

Add for contingencies, 14,908 10

Total expenses, \$76,000 00

RECAPITULATION.

Estimated Receipts,	256,000 00
" Expenses,	76,000 00

Surplus, equal to 12 per cent on capital, \$180,000 00

In this estimate it will be seen that we have put down the number of passengers at 80 per day, which we are satisfied is low enough, indeed in the opinion of many too low,

for intelligent men from various portions of the country all concur in the opinion that the construction of this connecting link, which will free the great Atlantic Mail Route from its only objectionable feature, the trip by sea from Wilmington to Charleston, will increase the travel to more than double what it at present is upon the Wilmington & Raleigh Road, which amounts to 50 per day. Again, when it is recollected that at the terminus in South Carolina, we join with three Roads, two of which are about being extended into a populous country, and must, therefore, bring in a great accession of travel, and farther, that in a period of 6 years the travel of the country has been found to double, who can doubt the correctness of the estimate?

The freight, we believe we have put down below the mark, with a determination of not deceiving, if it can possibly be avoided; we prefer risking an injury to the enterprise, to disappointing a Stockholder. The estimate for Turpentine and Spirits do. is based upon the transportation of the same articles upon the Wilmington & Raleigh Road, which as regards their manufacture would have no advantage over the contemplated Road, on the contrary, the advantages would be in favor of the latter, because of its passing through a country equally as well adapted for their manufacture, and which has never yet been tapped, and also because of the increased facilities for their transportation which this Road would afford.

The subscriptions to the enterprise have now reached between \$400,000 and 500,000 and the Commissioners are still actively engaged in receiving more; yet until it reaches the sum of \$750,000 the work will not be commenced.—When it shall be, no doubt can reasonably be entertained that a good deal of stock will be taken by the contractors, the subscriptions being placed upon such favorable terms, viz: \$5 per share every 90 days after the commencement of the work, taking, therefore, 5 years for the payment of the whole subscription.

The importance of the work to the United States in af-

fording a more speedy and certain transmission of the great Northern and Southern Mail, to the States of North and South Carolina, to the town of Wilmington, and to the inhabitants, both along the line of the Raleigh Road and this, is such that we cannot doubt, but that all interested will promptly come forward and aid us.

We submit herewith a compilation from the census of 1840, which shews very clearly the capabilities of the country through which the Road will pass to support such an enterprise. And in connection with it, we may remark that it may have been correct in 1840, but certainly cannot be so at this time, for in many of the articles the production has since, very much increased. For instance, it gave, in the article of Cotton, for the Districts of Marion, Darlington, Sumter and Marlboro', for the whole, but 18,800 bales of 350 lbs. each, while we are assured, from recent estimates made by persons well acquainted with each of the Districts, that over 60,000 bales are made in them.

EDW'D B. DUDLEY,
President W. & M. R.R.
JOHN C. McRAE,
General Agent.

Wilmington, N. C., August, 1847.

Compilation from the United States Census of 1840.

Counties.	Number of Cattle.	Number of Sheep.	Number of Swine.	Bushels of Wheat.	Bushels of Corn.	Pounds of Wool.	Bushels of Potatoes.	Bushels of Oats.	Bushels of Rye.	Pounds of Cotton.	Barrels Naval Stores.	Value of Lumber.	Number of Stores.	Population.
Brunswick,	7,237	1,889	9,512		36,357	2,739	47,426			7,898	4,867	13,670	4	5,265
Bladen,	9,759	5,855	21,686	1,549	180,705	7,574	55,141	4,954	631	58,193	14,281	44,868	11	8,022
Columbus,	8,554	5,600	17,406	1,366	79,155	6,724	49,282	375	641	24,035	725		5	3,941
Robeson,	14,830	12,513	29,274	2,646	248,195	16,246	54,632	1,579	912	547,596		21,000	6	10,370
Richmond,	10,653	7,226	18,841	20,347	247,169	10,337	31,171	12,942	1,649	1,794,154		27,804	8	8,909
Anson,	15,461	10,401	28,492	39,991	416,102	11,832	32,744	25,528	467	9,078,659			17	15,077
North Carolina,	66,524	43,484	125,211	65,899	1,207,683	55,452	270,396	45,378	4,300	11,510,505	19,873	107,342	51	51,584
Marion,	21,909	8,352	39,837	4,033	377,041	11,259	61,530	16,416	1,353	603,496			12	13,932
Horry,	13,182	4,857	22,196	1,720	81,641	4,734	50,676	126	381	40,780			6	5,755
Darlington,	15,438	6,082	36,856	13,309	457,193	13,750	84,812	52,477	4,026	1,231,985			26	14,822
Marlboro',	9,374	2,893	15,915	9,276	275,999	3,616	29,547	22,164	1,417	2,446,088			17	8,408
Chesterfield,	9,824	3,423	18,834	5,859	198,000	3,091	21,620	16,038	853	268,122			28	8,574
Sumter,	32,961	8,655	47,260	7,125	681,975	14,073	263,711	54,230	1,538	2,298,712			35	27,892
South Carolina,	102,688	34,262	180,898	41,322	2,071,849	50,553	511,896	161,451	9,568	6,869,183			124	79,383
N. C. bro't down.	66,524	43,484	125,211	65,899	1,207,683	55,452	270,396	45,378	4,300	11,510,505	19,873	107,342	51	51,584
Grand Total.	169,212	77,746	306,109	107,221	3,279,532	106,005	782,292	206,829	13,868	18,399,698	19,873	107,342	175	130,967





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